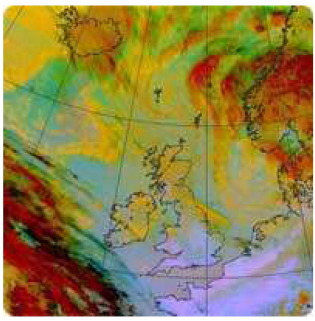
New observations of volcanic dust

20 April 2010



Met Office scientists have been working with the Universities of Reading and Hertfordshire to gather comprehensive data about the potential danger to aircraft from the volcanic plume.

The volcanic dust was measured using newly-developed probes that attach to meteorological balloons that can be used for measuring volcanic dust.

The Met Office Chief Forecaster, in conjunction with atmospheric dispersion scientists, used our plume forecast to identify a suitable location for the launch.

The RAF helicopter scrambled at the weekend to transport the scientists and equipment to fly to Scotland at low level under the ash plume had to be grounded, forcing a long journey through the night by road for scientists from Reading University, the Met Office in Exeter and Lincolnshire.

The weather balloon and probe was launched at 9 a.m. on Monday morning and clearly showed a 600 metre-thick layer of dust at a height of 4 km.

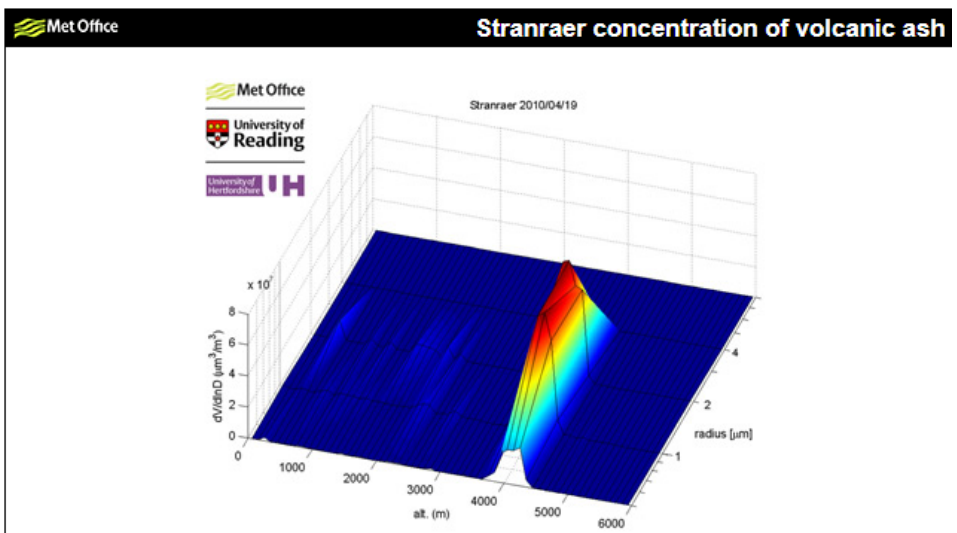


Fig 1. Graphic showing the concentration of volcanic ash above Stranraer, Scotland at 9 a.m. on Monday, 19 April. It shows the concentration of volcanic ash particles per cubic metre at a range of heights above the ground. The Large peak shows a concentration of volcanic ash 600 metres thick at a height of 4km.

The layer was found to contain highly abrasive dust particles, at concentrations of a third of a milligram of dust in each cubic metre. While the amount sounds small, a typical jet engine would ingest some 60 billion of these particles every second.

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